

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
13 December 2001 (13.12.2001)

PCT

(10) International Publication Number
WO 01/93817 A1

- (51) International Patent Classification⁷: **A61K 7/06**
- (21) International Application Number: **PCT/IT01/00289**
- (22) International Filing Date: **6 June 2001 (06.06.2001)**
- (25) Filing Language: **English**
- (26) Publication Language: **English**
- (30) Priority Data:
MI2000A001300 **9 June 2000 (09.06.2000)** **IT**
- (71) Applicant (for all designated States except US): **FAR-MAKA S.R.L.** [IT/IT]; Via Vetreria, 1, I-22070 Grandate Co (IT).
- (72) Inventor; and
- (75) Inventor/Applicant (for US only): **CASERO, Alessandro** [IT/IT]; Via Cardano 53, I-22100 Como (IT).
- (74) Agents: **AIMI, Luciano**; Società Italiana Brevetti, Via Carducci, 8, I-20123 Milano et al. (IT).
- (81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW.
- (84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).
- Published:**
- with international search report
 - before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments
- For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*



WO 01/93817 A1

(54) Title: **COSMETIC COMPOSITIONS FOR THE CARE OF SCALP AND HAIR**

(57) Abstract: Cosmetic composition for removing deposits of impurities on scalp and hair comprising some emollient substances, a granular substance adapted to mechanically remove said deposits, and a chelating agent having the task to facilitate the disaggregation thereof. The composition can be used to prevent the formation of said deposits and is therefore an important means for maintaining the fair hygiene of hair and scalp, an essential condition for their good health.

"COSMETIC COMPOSITIONS FOR THE CARE OF SCALP AND HAIR"

The present invention relates to cosmetic compositions for the care of hair, and in particular to a composition allowing to remove the deposits of impurities often arising on scalp and hair.

5 It is known that deposits of impurities consisting of variously originating substance such as furfuraceous scales, degradation products of sebum and sweat, dust and various inorganic substances, such as calcium, deriving from water used in normal cleaning, may grow on hair and scalp. In particular the last named inorganic item favors the aggregation of all these substances, making thus the
10 resulting deposits specially hard and sticking to hair and scalp. In addition, just because of the presence of calcium said deposits are insoluble in water and cannot be disgregated and cleared away by means of usual detergents.

 The production of such deposits results immediately in a worsening of the aesthetic look of hair that becomes shortly rough and opaque. A more serious
15 consequence resides in that said deposits clog the pores and hair follicles, thus preventing the cutaneous respiration and causing the weakening and in the long run the loss of hair.

 It is therefore an object of the present invention to provide a product able to remove said deposits from hair and scalp thus eliminating the cause of their
20 weakening. Said object is attained by means of a cosmetic composition in form of a creamy emulsion whose principal features are specified in claim 1 whereas other features are specified in the subsequent claims. The present invention relates also to a composition whose features are specified in claim 7 and subsequent claims.

 - A first advantage of the cosmetic composition according to the present
25 invention resides in that, thanks to the calcium chelating agents and granular substances therein contained, it can be used in eliminating one of the reasons of hair loss and therefore in fighting the baldness. According to a particular embodiment, the composition in conformity with the present invention comprises also a compound having a
30 keratolytic effect and able to favor the disgregating action carried out on the noxious deposits.

- 2 -

- Another advantage of the cosmetic composition according to the present invention resides in that, by aiding the separation and removal of dead cells, it has also a marked anti-dandruff action.
- A further advantage of the cosmetic composition according to the present invention resides in that it contains also some emollient substances which contribute to improve the aesthetic look of hair by making it bulky, strong and glossy, and assist in its combing.
- A particular advantage of the composition according to the present invention resides in that, thanks to the antibacterial compounds contained therein, it prevents the degradation of sebum and sweat and avoid the formation of said deposits.

Further advantages and features of the cosmetic compositions according to the present invention will appear to those skilled in the art from the following detailed description of an embodiment thereof.

The cosmetic composition according to the present invention consists of a creamy emulsion of conventional type further comprising a granular substance and a chelating agent.

Such a granular substance is adapted to allow for removal of noxious deposits formed on hair and scalp by applying through the fingers on it a delicate massage. Granular substances usable in the composition according to the present invention are all the substances conventionally used in products for the cleaning of skin, for example microcrystalline silica, calcium carbonate, tin oxide, magnesium stearate, synthetic resins, microcrystalline cellulose, Gransilk™ and the like.

The chelating agent has otherwise the task to complex the calcium ions by separating them from said noxious deposits so as to further aiding their disgregation. Various chelating agents known in the art may be added in the composition according to the present invention, such as for instance ethylenediaminetetraacetic acid, sodium heptagluconate, etidronic acid. Preferably, ethylenediaminetetraacetic acid or its salt is used; its amount by weight is preferably between 0,01% and 0,1% of the composition according to the

present invention.

According to a particular aspect, the composition in conformity with the present invention comprises also a compound having a keratolytic action that affects and dissolves the epidermis particles enclosed in said noxious deposits, thus making more effective the disgregating action on the latter. Such a keratolytic compound is preferably salicylic acid, and its amount by weight in the composition according to the present invention is between 0,001% and 0,05%.

According to a particular embodiment, the composition in conformity with this application comprises also an antibacterial compound having the task to prevent the decomposition of sebum and sweat, so as to oppose the formation of noxious deposits. Said antibacterial compound is preferably chlorexidine, and its amount by weight in the composition is between 0,01% and 1%.

Thanks to this last ingredient, the composition according to said embodiment of the invention is able to prevent the formation of noxious deposits on scalp and hair, which formation, as stated above, is linked to the decomposing bacterial activity on some organic residues. The composition can therefore be also used to preserve the proper bacterial flora of the scalp, which is essential to keep safe the good health of hair too.

A non limiting example of a preparation according to the invention is as follows.

EXAMPLE

In a founding furnace the following ingredients are heated to 65°C until a clear mixture is obtained:

	Cetylstearyl alcohol	kg	56
25	Cetyl alcohol	"	30
	Cetylstearyl ether polyethoxylate	"	20
	Paraffin oil	"	20
	Lanolin	"	10
	Laurylmethicone	"	20
30	Methylparaben	"	2,0.

In an emulgator are then heated to 70°C:

- 4 -

	Demineralised water	q.s. to 1000 kg
	EDTA	kg 2
	Sodium heptagluconate	" 2
	Etidronic acid	" 1,5
5	Salicylic acid	" 0,2

Both phases thus obtained are then homogenized for 15-20 minutes and to the resulting emulsion there are subsequently added:

	Gransilk™	kg 3
	Maize starch	" 20
10	Microcrystalline cellulose	" 20

A de-aeration and homogenization step is then effected until a homogeneous mass is obtained. The mass is afterwards allowed to cool down to 40°C, and under swift agitation are added:

	Cetyltrimethylammonium chloride	kg 30
15	Chlorexidine bichlorhydrate	" 1
	Perfume	q.s.

A gentle agitation under vacuum is continued, and cooling down to the ambient temperature is carried out by setting the pH at 4-4,5 with possible regulation by means of lactic or citric acid.

20 The cosmetic composition thus obtained is a creamy emulsion to be used as a "mask" by gently massaging it on wet hair before or after a shampoo, allowing it to act for 3-10 minutes and rinsing then with water.

Although a particular embodiment of the present invention has been described, possible changes and/or additions may be introduced by those skilled in
25 the art, yet remaining in the scope of the invention.

CLAIMS

1. A cosmetic composition comprising emollient substances for removing from scalp and hair the deposits of impurities, characterized in that the composition further comprises a granular substance and a calcium chelating agent.
 2. The cosmetic composition according to claim 1, characterized in that said granular substance is chosen from the group formed by microcrystalline silica, calcium carbonate, zinc oxide, magnesium stearate, microcrystalline cellulose, synthetic resins.
 3. The cosmetic composition according to claim 1, characterized in that said calcium chelating agent is chosen from the group formed by sodium heptagluconate, etidronic acid, and ethylenediaminetetraacetic acid or its salt.
 4. The cosmetic composition according to claim 3, characterized in that the amount by weight of ethylenediaminetetraacetic acid in the composition is comprised between 0,01% and 0,1%.
 5. The cosmetic composition according to claim 1, characterized in that it comprises further a keratolytic compound.
 6. The cosmetic composition according to the previous claim, characterized in that said keratolytic compound is salicylic acid and its amount by weight in the composition is comprised between 0,001% and 0,05%.
 7. The cosmetic composition according to claim 1, characterized in that it comprises further an antibacterial compound.
 8. The cosmetic composition according to the previous claim, characterized in that said antibacterial compound is chlorexidine and its amount by weight in the composition is comprised between 0,01% and 1%.
-

INTER ONAL SEARCH REPORT

International Application No

PCT/IT 01/00289

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 A61K7/06

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 A61K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the International search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5 922 359 A (YOUSSEFYEH RENA T) 13 July 1999 (1999-07-13) the whole document	1-8
X	WO 99 12519 A (PROCTER & GAMBLE) 18 March 1999 (1999-03-18) the whole document	1-8

☐ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents:

A document defining the general state of the art which is not considered to be of particular relevance

E earlier document but published on or after the international filing date

L document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

O document referring to an oral disclosure, use, exhibition or other means

P document published prior to the international filing date but later than the priority date claimed

T later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

X document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

Y document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

Z document member of the same patent family

Date of the actual completion of the international search

13 November 2001

Date of mailing of the international search report

21/11/2001

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3016

Authorized officer

Couckuyt, P

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No
PCT/IT 01/00289

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 5922359	A	13-07-1999	US 6036966 A	14-03-2000
WO 9912519	A	18-03-1999	AU 8642598 A	29-03-1999
			BR 9811758 A	29-08-2000
			CN 1274277 T	22-11-2000
			EP 1011629 A1	28-06-2000
			WO 9912519 A1	18-03-1999
			JP 2001515849 T	25-09-2001
			US 6190678 B1	20-02-2001
			ZA 9807944 A	05-03-1999